

SANYO	No.1371C	Monolithic Digital IC
		LB1645N
Bidirectional Motor Driver		

The LB1645N is a bidirectional motor driver IC. Since it has a 2-input logic circuit and performs the functions of bidirectional driving and braking, it is capable of direct driving 6V, 9V, 12V motors. The output voltage can be varied by using an external Zener diode.

Features

- . 2-input logic can be used to exercise control of bidirectional driving and braking.
- . On-chip elements to absorb dash current of motor
- . Input connectable direct to MOS LSI
- . Output voltage variable by use of external Zener diode

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

			unit
Maximum Supply Voltage	VCCmax	18	V
Input Voltage	VIN	-0.3 to VCC	V
Output Current	IOUT	± 1.6	A
Allowable Power Dissipation	Pdmax	2.2	W
Operating Temperature	Topr	-25 to +75	$^\circ\text{C}$
Storage Temperature	Tstg	-55 to +125	$^\circ\text{C}$

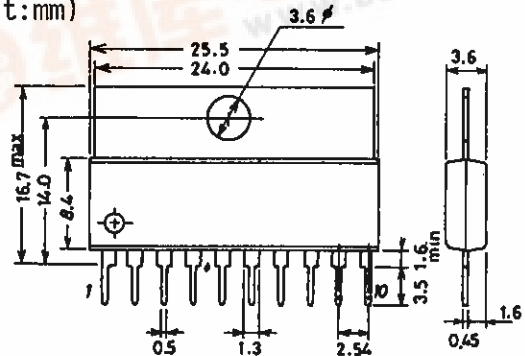
Allowable Operating Conditions at $T_a=25^\circ\text{C}$

			unit
Supply Voltage	VCC1	7 to 18	V
"	VCC2	5 to 18	V

Electrical Characteristics at $T_a=25^\circ\text{C}, V_{CC}=12\text{V}$, See Test Circuit.

			min	typ	max	unit
Input Threshold Voltage	Vth	$R_L=\infty$	1.1	1.3	1.5	V
Minimum Input ON Current	IIN	$R_L=\infty$		10	15	μA
Output Voltage	V _o	$R_L=60\text{ohms}, V_Z=7.4\text{V}$	6.6	7.2	7.4	V
Output Leakage Current	IOL	Pins 5, 6 GND, $R_L=\infty$		0.01	1.0	mA
Current Dissipation	ICC	" "		3	6	mA
Saturation Voltage(Upper)	Vsat1	VCC=12V, IOUT=300mA		1.9	2.2	V
	Vsat1'	VCC=12V, IOUT=500mA		1.9	2.3	V
Saturation Voltage(Lower)	Vsat2	VCC=12V, IOUT=300mA		0.25	0.5	V
	Vsat2'	VCC=12V, IOUT=500mA		0.4	0.65	V

Package Dimensions 3046B
(unit:mm)



Truth Table

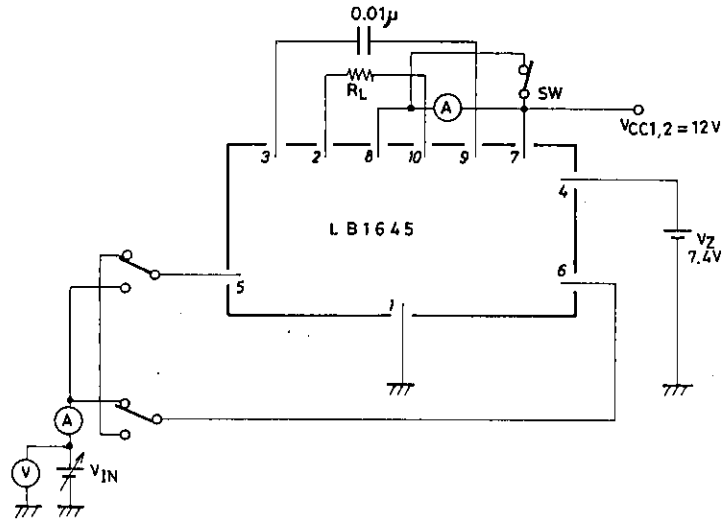
Input		Output		Function
IN1	IN2	OUT1	OUT2	
0	0	0	0	Braking
1	0	1	0	Forward (reverse) drive
0	1	0	1	Reverse (forward) drive
1	1	0	0	Braking

Input level
1 : 2.0V or more
0 : 0.7V or less

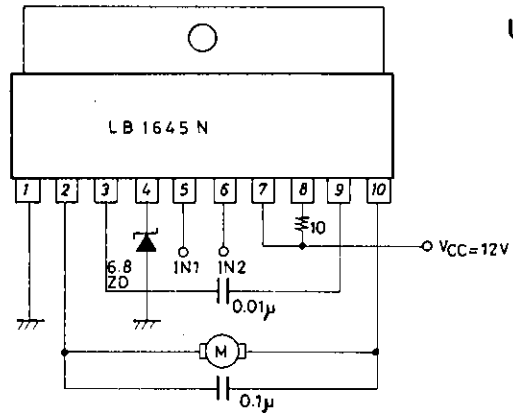
SANYO: SIP10F

LB1645N

Test Circuit

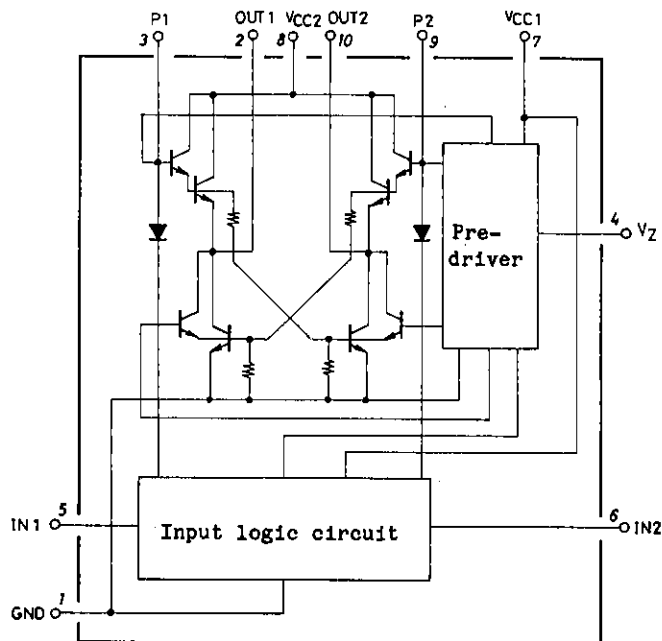


Sample Application Circuit : 6V motor

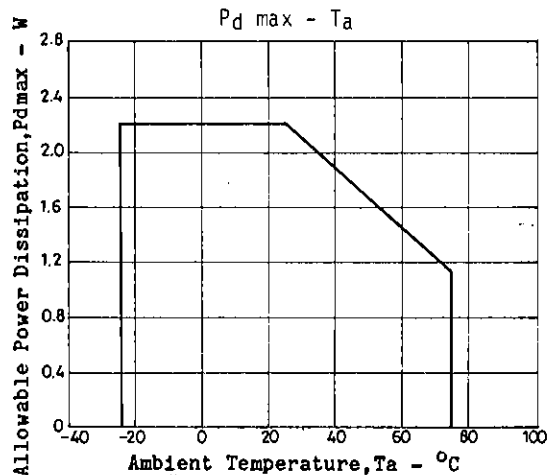
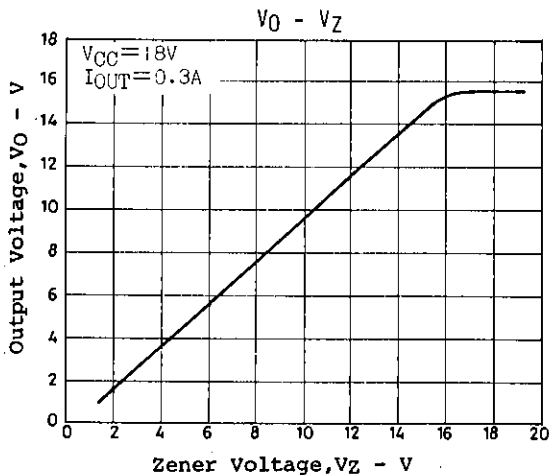
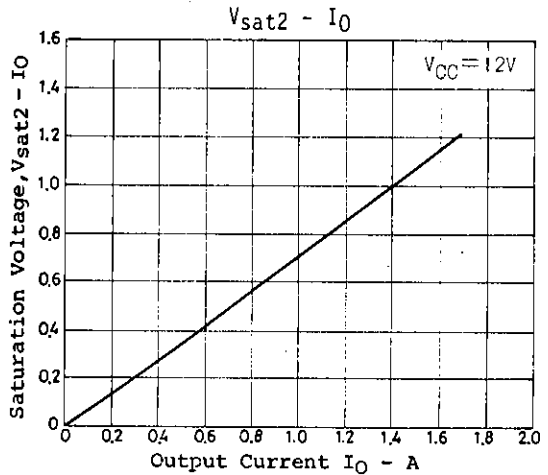
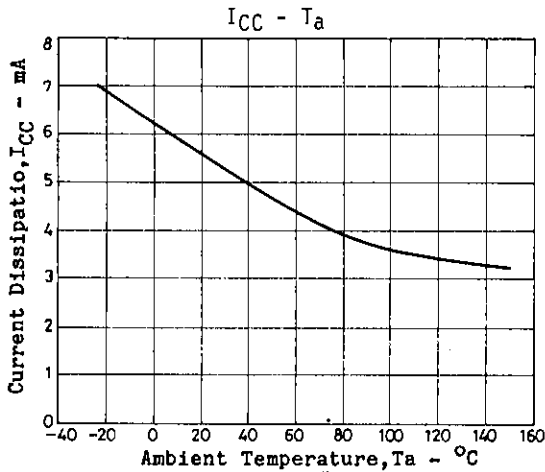
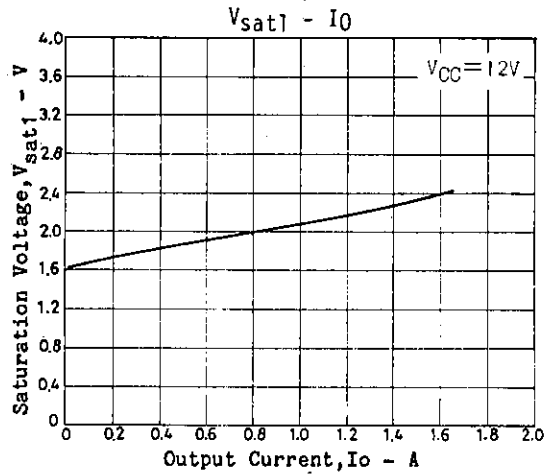
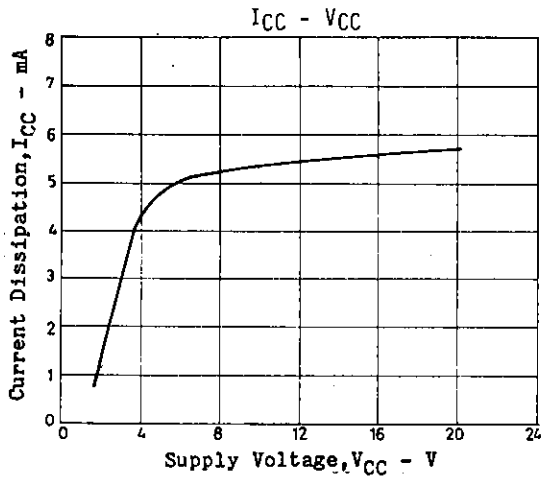


Unit (resistance: Ω , capacitance: F)

Equivalent Circuit Block Diagram



LB1645N



- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use.
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.